CLAIMS

1. An anodic oxidation method for electrolyzing an object (3) to be treated in an electrolytic solution received in a receiving vessel (1) serving said object (3) as an anode and generating an oxide film on a surface of said object (3), wherein a carbonated water of a predetermined acid concentration generated by dissolving a pressurized carbon dioxide in a predetermined quantity of water (7) is used as said electrolytic solution, said electrolytic solution is set to a predetermined pressure and temperature, a sealing suppressing ion of an oxide film is mixed into said electrolytic solution.

2. An anodic oxidation method according to claim 1, wherein generation of said oxide film, sealing treatment of said oxide film and sealing suppressing treatment of said oxide film are carried out simultaneously.

3. An anodic oxidation method according to claim 1, wherein said oxide film sealing treatment can be controlled through said sealing suppressing ion.

4. An anodic oxidation method according to claim 1, wherein an oxide film, which has been subjected to said sealing treatment and sealing suppressing treatment, is immersed in said electrolytic solution for a predetermined time, so that said pores of said oxide film can be enlarged in diameter.

5. An anodic oxidation method according to claim 1, wherein a prescribed dye is precipitated or absorbed on the pores of said oxide film,

which has been subjected to said sealing treatment and sealing suppressing treatment, or prescribed catalyst pieces are carried thereon.

6. An anodic oxidation method according to claim 5, wherein said catalyst pieces are powdery titanium or titanium alloy.

7. An anodic oxidation method according to claim 1, wherein a carbonated water of a predetermined acid concentration generated by dissolving a water in a supercritical or subcritical carbon dioxide is used as an electrolytic solution.

8. A method for manufacturing a titanium oxide film, in which a titanium or titanium alloy is electrolyzed in an electrolytic solution received in a receiving vessel (1) serving said titanium or titanium alloy as an anode and an oxide film is formed on a surface of said titanium or titanium alloy, wherein a carbonated water of a predetermined acid concentration generated by dissolving a pressurized carbon dioxide in a predetermined quantity of water is used as said electrolytic solution.

9. A method for manufacturing a titanium oxide film according to claim 8, wherein a carbonated water of a predetermined acid concentration generated by dissolving a water in a supercritical or subcritical carbon dioxide is used as an electrolytic solution.

10. A catalyst carrying method, in which an oxide film of an object (3) to be treated is contacted with a catalyst carrying solution (39) containing a catalyst material and said catalyst is carried on a surface of said oxide film, wherein said catalyst carrying solution (39) is formed by a carbonated water containing a catalyst material.

11. A catalyst carrying method according to claim 10, wherein said

catalyst carrying is conducted under a high pressure.

12. A catalyst carrying method according to claim 10, wherein said carbonated water is a highly pressurized carbonated water (41).

13. A catalyst carrying method according to claim 10, wherein said highly pressurized catalyst carrying solution (39) is lowered in pressure so as to be separated into a carbonated water and a catalyst material, and said carbonated water and said catalyst material are recollected.

14. A catalyst carrying method according to claim 10, wherein a water, which has been separated from said carbonated water, can be discharged.